

REMARKS

Claims 1-32 remain pending in the application. Claims 1-27 have been amended. Reconsideration of the rejection and allowance of the pending application in view of the following remarks are respectfully requested.

In the Office Action of May 18, 2005, the Examiner rejected claims 1, 2, 6, 7, 11, 12, 21 and 22 under 35 U.S.C. § 103(a) as being unpatentable over Van Maren et al. (U.S. Patent No. 5,579,516) in view of Mine et al. (U.S. Patent No. 5,978,336). Applicants respectfully traverse the rejection for at least the following reasons.

According to an aspect of the present invention, a data storage medium is employed for recording and reproducing a file managed using a volume/file structure. The data storage medium stores data content which includes, inter alia, root directory file management information. The root directory file management information includes start address information for an unrecorded area existing in a volume space. The root directory file management information is configured to be updated when a new file is recorded on the data storage medium by storing new root directory file management information in the unrecorded area for which start address information is recorded.

As Applicants argued in the previous Response filed on April 5, 2005, Van Maren does not disclose an unrecorded area, for which start address information is recorded, which is used for updating root directory file management information when a new file is recorded on a data storage medium. In the Office Action mailed on May 18, 2005, the Examiner agreed with Applicants' assertion,

but stated that Mine teaches this feature. Applicants respectfully disagree with this position.

Mine is directed to a Universal Disk Format (UDF) file system for an optical disk which includes an Unallocated Space Bit Map that indicates a map showing an area where new data can be recorded. See col. 4, lines 25-39. However, Applicants respectfully submit that Mine does not disclose that root directory management information is updated when a new file is recorded on the optical disk by storing new root directory file management information in the area indicated by the Unallocated Space Bit Map.

Applicants respectfully submit that the combination of Van Maren and Mine, asserted by the Examiner, does not disclose (or even suggest) Applicants' claimed invention of a data storage medium for recording and reproducing a file, in which the data storage medium stores data content that includes root directory file management information including start address information for an unrecorded area existing in a volume space, and where the root directory file management information is configured to be updated when a new file is recorded on the data storage medium by storing new root directory file management information in the unrecorded area for which start address information is recorded, as recited in independent claim 1.

For at least these reasons, Applicants respectfully submit that independent claim 1 is in condition for allowance. Independent claims 6, 11, 16 and 21 recite similar features, and are thus submitted to be in condition for allowance for at least the same reasons.

Dependent claims 2, 7, 12, 17 and 22 are also submitted to be in condition for allowance for at least the reasons set forth above with respect to independent claims 1, 6, 11, 16 and 21.

In the Office Action, the Examiner rejected claims 3, 4, 8, 9, 13, 14, 18, 19, 23, 24 and 28-32 under 35 U.S.C. § 103(a) as being unpatentable over Leonhardt et al. (U.S. Patent No. 5,485,321) in view of Okuda (U.S. Patent No. 5,740,445). Applicants respectfully traverse the rejection for at least the following reasons.

According to another aspect of the present invention, the root directory file management information includes invalid extent management information for managing an invalid data recording area.

As set forth in the Response previously filed on April 5, 2005, Leonhardt is directed towards a method for storing data on a magnetic tape. Leonhardt discloses that certain collections of data blocks included on a magnetic tape are designated as Not Valid (or invalid) data. See col. 20, line 65 to col. 21, line 9. Leonhardt also discloses that a header maintains a list of data blocks and a designation as to whether each is invalid. See col. 21, lines 56-67. Applicants respectfully submit that Leonhardt does not disclose (or even suggest) that the header is recorded in a volume space as part of root directory file management information, as taught by Applicants' claimed invention.

Applicants note that similar type arguments were presented in the Response filed on April 5, 2005, but that the Examiner has not responded (in the present Office Action) by particularly pointing out where Leonhardt discloses or

suggests that the header is recorded in a volume space as part of root directory file management information. Applicants submit that Leonhardt does not suggest this feature, as Leonhardt does not appear to even mention root directory file management information. Accordingly, Applicants respectfully request that the Examiner either particularly point out where in the reference Leonhardt discloses or suggests that the header is recorded in a volume space as part of root directory file management information, or that he withdraw the 35 U.S.C. § 103(a) rejection.

Okuda is directed to a method for managing a directory in an information processing apparatus. In the Office Action, the Examiner asserted that Okuda discloses the use of an address information for a root directory. Applicants respectfully submit that Okuda fails to disclose or suggest recording invalid extent management information in a volume space as part of root directory file management information.

Thus, Applicants respectfully submit that the combination of Leonhardt and Okuda suggested by the Examiner fails to disclose (or even suggest) a data storage medium for recording and reproducing a file, where the data storage medium stores data contents including root directory file management information, and the root directory file management information includes invalid extent management information for managing an invalid data recording area, as recited in independent claim 3.

For at least these reasons, Applicants respectfully submit that independent claim 3 is in condition for allowance. Independent claims 8, 13, 18

and 23 recite similar features, and are submitted to be in condition for allowance for at least the same reasons.

Dependent claims 4, 9, 14, 19, 24 and 28-32 are also submitted to be in condition for allowance for at least the reasons set forth above with respect to independent claims 3, 8, 13, 18 and 23.

In the Office Action, the Examiner rejected claims 5, 10, 15, 20 and 25-27 as being unpatentable over Caffarelli et al. (EP 0730274) in view of Robinson et al. (GB 2251325). Applicants respectfully traverse the rejection for at least the following reasons.

Another aspect of the present invention is that the root directory file management information is plurally recorded as main chaining information and reserve chaining information. The reserve chaining information is a duplicate of the main chaining information. The data contents stored in the data storage medium also include first address information, corresponding to an area in which the main chaining information and the reserve chaining information are recorded at a beginning of a volume space, that is recorded as part of a file set descriptor, and a second address information, corresponding to an area in which the main chaining information and the reserve chaining information is update recorded, that is recorded as part of the main chaining information and the reserve chaining information.

Applicants submit that Caffarelli is directed to a compact disc recording system and method and does not disclose that root directory file information is plurally recorded as main chaining information and reserve chaining information,

where the reserve chaining information is a duplicate of the main chaining information. The Examiner acknowledges that Caffarelli does not teach this feature, but asserts that Robinson teaches this feature. Applicants respectfully disagree with this assertion.

Robinson is directed towards a method of deleting files, in which a copy of a file is made during a clean-up operation prior to deleting the file. See Abstract. Applicants submit that Robinson does not disclose or suggest the need to delete root directory file information main chaining information. Applicants submit that Caffarelli also fails to disclose or suggest a need to delete root directory file information main chaining information. Thus, Applicants respectfully submit that no motivation exists to combine the teachings of the two references, as suggested by the Examiner, to arrive at Applicants' claimed invention.

In the Response filed April 5, 2005, Applicants argued that Caffarelli does not disclose or suggest storing main and reserve chaining information at a first address, or update recording the main and reserve chaining information at a second address. However, the Examiner did not respond to this argument in the present Office Action. Applicants respectfully submit that Robinson also fails to disclose or suggest these features, and respectfully request that the Examiner directly and clearly point out how these features are taught by Caffarelli should the Examiner maintain this ground of rejection.

In view of the above, Applicants respectfully submit that the combination of Caffarelli and Robinson, asserted by the Examiner, fails to disclose or suggest a data storage medium for recording and reproducing a file, where the data

storage medium stores data contents including root directory file management information that is plurally recorded as main chaining information and reserve chaining information, first address information, corresponding to an area in which the main chaining information and reserve chaining information are recorded at a beginning of a volume space, and second address information, corresponding to an area in which the main chaining information and the reserve chaining information is update recorded, where the reserve chaining information is a duplicate of the main chaining information, as recited in independent claim 5.

For at least these reasons, Applicants respectfully submit that independent claim 5 is in condition for allowance. Independent claims 10, 15, 20 and 25-27 include recite similar features, and are submitted to be in condition for allowance for at least the same reasons.

Based on the above, it is respectfully submitted that all the pending claims in this application are in condition for allowance, and a Notice of Allowance is respectfully requested.


SUMMARY AND CONCLUSION

Entry and consideration of the present amendment, reconsideration of the outstanding Office Action, and allowance of the present application and all of the claims therein are respectfully requested and now believed to be appropriate. Applicants have made a sincere effort to place the present invention in condition for allowance and believe that they have now done so.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should the Examiner have any questions or comments regarding this response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
Miyuki SASAKI et al.


Bruce H. Bernstein
Reg. No. 29,027

August 18, 2005
GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191

Steven Wegman
Reg. No. 31,438